

**Supplemental Joint Permit Application for
Section 404/Section 10 Permit and Coastal Use Permit
Bayou Bridge Pipeline Project (MVN-2015-02295-WII; P20160166)
Bayou Bridge Pipeline, LLC**

On behalf of our client, Bayou Bridge Pipeline, LLC (BBP), Perennial Environmental Services, LLC (Perennial) submits this document and the attached information as a supplemental Joint Permit Application for authorization under Section 404 of the *Clean Water Act*, Section 10 of the *Rivers and Harbors Act* of 1899, and for a Coastal Use Permit for the proposed Bayou Bridge Pipeline Project (Project; MVN-2015-02295-WII; P20160166). This supplemental application reflects the current proposed Project alignment and includes additional field delineated wetland and waterbody data that have been collected since the initial permit application was submitted to the U.S. Army Corps of Engineers (USACE) – New Orleans District (NOD) and the Louisiana Department of Natural Resources (LDNR) Office of Coastal Management (OCM) on February 19, 2016.

The proposed Project is located in Calcasieu, Jefferson Davis, Acadia, Vermilion, Lafayette, Iberia, St. Martin, Iberville, Ascension, Assumption, and St. James parishes, Louisiana (**Attachment 1**). BBP proposes to construct, own, and operate approximately 162.07 miles of new 24-inch diameter crude oil pipeline that will commence south of Lake Charles in Calcasieu Parish, Louisiana and will terminate near St. James in St. James Parish, Louisiana. The 162.07 miles of pipe will consist of a 160.95-mile mainline and a 1.12-mile lateral. The proposed Project also involves the construction of two pump stations and other ancillary facilities along the proposed pipeline. The pump stations will be located near milepost (MP) 42.50 and MP 98.90 in Jefferson Davis and St. Martin parishes, respectively.

Of the 162.07 miles of newly proposed pipeline, approximately 16.50 miles of the mainline and the entirety of the 1.12-mile lateral are located within the Louisiana Coastal Zone (LCZ). The proposed Project will traverse approximately 0.02 mile of Ascension Parish within the LCZ, approximately 9.19 miles of Assumption Parish within the LCZ, and approximately 8.41 miles of St. James Parish within LCZ.

To assist you in your evaluation of this application, the following sections provide a general Project description; a summary of field assessments conducted for the Project; a description of the proposed construction procedures; and a summary of impacts to “Waters of the United States”. Furthermore, based on a review of a recently authorized project similar in scope, BBP has included a list of special conditions that it is agreeable to being included in the USACE – NOD authorization to be issued for the proposed Project as **Attachment 12**. Attached you will find:

- 1: Project Mapping
 - Project Vicinity Map
 - Project Plan View Maps
 - HDD Plan/Profile Drawings
 - Pipeline Profile Drawings for LCZ
 - Project Typical Drawings
- 2: “Waters of the United States” impacted by the proposed Project

- 3: Engineering Form 4345
- 4: Preliminary Jurisdictional Determination Form
- 5: Wetland Delineation Report
 - Survey Area Mapping
 - Data Sheets (electronic)
 - Photographic Log (electronic)
- 6: USFWS Concurrence Letter and Threatened and Endangered Species and Sensitive Resource Report
- 7: Draft Phase I Cultural Resources Report
- 8: Project-specific Environmental Construction Plans
- 9: Alternative Analysis
- 10: Landowners Impacted by the Project within the Louisiana Coastal Zone
- 11: Interim LRAM Table for Project Impacts
- 12: List of Special Conditions

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PROJECT DESCRIPTION

The proposed Project will involve the construction of approximately 162.07 miles of 24-inch diameter crude oil pipeline from Lake Charles to St. James, of which 17.62 miles are located in the LCZ. The Project will also involve the construction of two pump stations and other ancillary facilities along the pipeline. A majority of the proposed Project would be constructed across open land primarily consisting of actively cultivated agriculture and pastureland. Additional land uses along the Project route consist of developed areas (i.e., industrial and residential areas), bottomland hardwood forests, swamps, and open water. The Project is located within the following U.S. Geological Survey topographic quadrangles: *Westlake, Lake Charles, Lake Charles SW, Iowa, Lacassine, Welsh South, Jennings, Mermentau, Crowley West, Crowley East, Duson, Leroy, Milton, Youngsville, New Iberia North, Loreauville, Catahoula, Lake Mongoulois, Jackass Bay, Lake Chicot, Pigeon, Lone Star, Belle Rose, Donaldsonville, Madewood, Lagan, and Convent (Attachment 1)*. The portion of the Project located within the LCZ is located within the *Belle Rose, Donaldsonville, Madewood, Lagan, and Convent* topographic quadrangles.

Purpose and Need

The Project's purpose is to move an economical, abundant, reliable, and domestic supply of crude oil from Clifton Ridge Marine Terminal in Lake Charles, Louisiana to various crude oil terminals located near St. James, Louisiana. The Bayou Bridge Pipeline is being designed to safely carry 280,000 barrels per day (bpd) or more of light or heavy crude. From the St. James Terminals, the crude oil will be transported by other pipelines to refineries located along the Gulf Coast where 80

percent of the U.S. refining capabilities exist today to further our Country's goal of energy independence.

BBP has secured binding long-term transportation and deficiency contracts from multiple committed shippers to support development of the Bayou Bridge Pipeline with a crude oil transportation capacity of approximately 280,000 bpd, with ninety percent (90%) of the transportation capacity subscribed by those committed shippers and the remaining ten percent (10%) of the transportation capacity reserved for walk-up shippers. Transportation service on the Bayou Bridge Pipeline shall be provided by BBP pursuant to the Interstate Commerce Act and in accordance with the rules and regulations of the Federal Energy Regulatory Commission for common carrier crude oil pipeline transportation service. Subscriptions from committed shippers were obtained by BBP in connection with an initial open season that ran from December 1, 2014 to March 25, 2015, and an expansion open season that commenced on October 1, 2015 and concluded on November 18, 2015.

In addition to moving the crude from terminal to terminal, the Project purpose can be summed up in four major categories:

1. First, the Project will improve overall safety to the public and environment. It will reduce crude oil shipped by truck and by rail and increase the amount shipped by pipeline. Pipelines are the safest and most efficient means to transport crude oil, according to statistics compiled by the United States Department of Transportation. Pipelines are heavily regulated and are subject to intense scrutiny and oversight. Time and time again, pipelines have proven to be the safest and most reliable form of transporting oil.
2. Second, the Project will play a role in increasing America's energy independence. The pipeline is a means to transport domestically produced crude oil to support United States consumers' energy demand. The United States still imports half of the oil it consumes per day, and the pipeline will provide a critical link to help close the gap between what we produce as a country and what we consume.
3. Third, through the Project, Gulf Coast refineries will have better access to more reliable United States crude oil production to be used to meet United States consumers' need for gasoline, diesel fuel, and other petroleum products.
4. Finally, the Project will ease transportation constraints for agricultural products. The Project will free-up rail capacity for the transportation of crops and other commodities currently held up by crude oil cargos.

The pipeline will not only provide a long-term, safe, reliable and energy-efficient option to move crude oil to enhance America's energy independence, it will also provide direct benefits to communities located along and near the Project route. These benefits will include, but are not limited to, providing: temporary construction employment; full-time, local jobs to operate and maintain the pipeline; right-of-way (ROW) payments; additional sales tax revenues from the sale of goods and services during construction and long-term to operate and maintain the pipeline; annual State and local community revenue from property taxes; and long-term support of regional contractors, manufacturers, distributors, and retailers through ongoing purchase of goods and services to operate and maintain the Project.

Briefly, the Project will deliver domestically produced crude oil from various production areas to United States refineries where the crude oil will be refined into products to meet consumers' need for fuels (e.g., gasoline, diesel, and kerosene), and after further processing, for crude oil derivative products (e.g., plastics, paints, and chemicals). The overall Project is a \$670 million dollar investment directly impacting the local, regional, and national labor force by creating nearly 1,500 construction jobs.

These well-paying construction jobs will create considerable labor income and state income tax revenue – including the generation of ad valorem taxes. Upon authorization, the Project will put welders, mechanics, electricians, pipefitters, heavy-equipment operators, and others within the heavy-construction industry to work. Construction of the Project will also contribute more than \$150 million in direct spending just for materials – the majority of which will be purchased here in the United States. The majority of the valves, fittings, valve actuators, and remaining materials will be manufactured in the United States, creating significant opportunities for regional and national manufacturing. In addition to manufactured goods and services, the Project will provide \$25 million in easement payments to the landowners whose property is crossed by the proposed pipeline.

Overall, the Project's purpose is to provide an efficient, safe, and reliable transportation solution to move crude within the United States markets, which meets the need to improve United States energy independence and provide a more reliable supply of crude oil to United States refineries for processing to meet domestic needs for fuels and other petroleum derivative products. It also has tremendous secondary and sustainable economic benefits to the United States by supporting energy independence, increasing employment opportunities, and adding to demand in many manufacturing sectors, which will be a boost to the overall economy. When considering the economic impact and benefit, once United States workers are employed on the Project, consistent with most mega-infrastructure projects, the workers will spend their earnings in the communities where they work and live, resulting in multiplied economic impacts that will be nearly \$5 billion just during the construction phase. This economic impact will affect manufacturing in many domestic sectors such as the following examples. It will result in new vehicles being purchased, which positively impacts the auto industry. It will result in new homes being built, which improves and increases the housing construction, resale, and lending business located in the region and across the United States. It impacts the food industry by requiring more food services and products to be delivered and consumed in the Project region. The list could continue with a description of many secondary benefits, but in summary, the economic impact to the United States as well as the immediate region where the pipeline is located is tremendous and critical to keep Americans employed and our economy moving forward.

Pipeline Facilities

The pipeline facilities associated with the Project would involve the construction and operation of a new 24-inch-diameter crude oil pipeline. The proposed 160.95-mile mainline will commence south of Lake Charles, Louisiana and will terminate near St. James, Louisiana. The proposed lateral will commence at the terminus of the mainline and will terminate approximately 1.12 miles north to deliver product to additional customers.

Construction of both the mainline and the lateral pipeline would require a typical corridor width of 100 feet in uplands and 75 feet in wetlands. Additional temporary workspace (ATWS) may be required where site-specific conditions warrant the use of specialized construction procedures. To allow for the safe operation and staging of equipment and materials for installation of the pipeline, ATWS will be required for road, wetland, waterbody, and foreign utility line crossings; horizontal directional drills (HDDs); and areas where topsoil segregation is required. Additionally, ATWS would be required at the beginning and terminus of the pipeline to allow for mobilization of construction equipment.

Aboveground Facilities

Aboveground facilities associated with the Project include two pump stations and other ancillary facilities along the proposed pipeline. Aboveground facilities located within the LCZ include three mainline valves (MLV) and a meter and regulator (M&R) station. All MLVs located within wetlands or waterbodies will be installed on elevated platforms to avoid the placement of permanent fill.

A summary of the pipeline and aboveground facilities proposed to be constructed during the Project are summarized below in **Table 1**.

Table 1 Summary of Bayou Bridge Pipeline Project Facilities			
Facility	Description	Milepost	Parish
Outside the Louisiana Coastal Zone			
Pipeline Facilities			
Mainline	Install 144.45 miles of 24-inch diameter crude oil pipeline	0.00 - 22.94; 25.31 - 26.84	Calcasieu
		22.94 - 25.31; 26.84 - 46.80	Jefferson Davis
		46.80 - 66.48	Acadia
		66.48 - 79.22	Vermilion
		79.22 - 88.85	Lafayette
		88.85 - 90.44	Iberia
		90.44 - 126.41	St. Martin
		126.41 - 142.69	Iberville
		142.69 - 144.45	Ascension

Table 1 Summary of Bayou Bridge Pipeline Project Facilities			
Facility	Description	Milepost	Parish
Aboveground Facilities			
Mid-point pump station 1	Install a 10-acre pump station	42.50	Jefferson Davis
Mid-point pump station 2	Install a 10-acre pump station	98.90	St. Martin
Ancillary Facilities	Install a scrapper trap at the beginning of the mainline within a 200-foot by 50-foot site	0.00	Calcasieu
	Install new MLVs at 100-foot by 50-foot sites within the permanent easement of the mainline. MLVs located within wetland and waterbodies will be installed on elevated platforms.	5.91; 13.47	Calcasieu
		27.15; 32.50; 35.80; 38.10; 45.52	Jefferson Davis
		47.76; 62.35	Acadia
		78.19	Vermilion
		79.49; 85.26	Lafayette
		N/A	Iberia
		96.08; 105.77; 110.29; 114.74; 120.02; 120.68	St. Martin
		130.26; 130.97; 139.66	Iberville
	143.79	Ascension	
Within the Louisiana Coastal Zone			
Pipeline Facilities			
Mainline	Install 16.50 miles of 24-inch diameter crude oil pipeline	144.45 – 144.47	Ascension
		144.47 – 153.66	Assumption
		153.66 – 160.95	St. James
Lateral	Install 1.12 miles of 24-inch diameter crude oil pipeline	0.00 – 1.12	St. James
Aboveground Facilities			
Ancillary Facilities	Install a 2-acre M&R station at the terminus of the mainline/beginning of the lateral	160.95 (mainline) / 0.00 (lateral)	St. James
	Install new MLV at 100-foot by 50-foot sites within the permanent easement of the mainline. MLVs located within wetland and waterbodies will be installed on elevated platforms.	MP 146.32; MP 148.14	Assumption
		MP 156.64	St. James

Access Roads

BBP will utilize existing public and private roads to access the pipeline ROW and aboveground facilities to the extent practicable. Existing roads utilized will include paved, gravel, or pasture roads, and other conveyances. A total of 75 temporary and 21 permanent access roads would be utilized to construct the Project, of which 16 temporary and 3 permanent access roads occur within the LCZ. Some temporary access roads may require modification or improvement to facilitate safe access for construction equipment and personnel. Any temporary access road requiring modification would be restored to pre-existing conditions following Project completion. Access roads were surveyed and are included in the Project's *Wetland Delineation Report* (**Attachment 5**) and impact tables (**Attachment 2**), if applicable.

PROJECT IMPACT SUMMARY

Perennial evaluated the Project areas for "Waters of the United States" as well as threatened and endangered species and cultural resources. These evaluations are described below.

Waters of the United States

The wetland delineation was conducted by Perennial in accordance with the November 2010 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic Gulf Coast Region (Version 2.0) and the routine determination guidelines provided in the USACE Wetland Delineation Manual (Technical Report Y-87-1). A detailed description of wetlands and waterbodies crossed or otherwise impacted by the Project facilities, including the feature ID, feature type, approximate milepost (MP) location, latitude and longitude, crossing length, jurisdictional status, crossing method, temporary impacts, permanent conversion impacts, and permanent loss, is provided in **Attachment 2**. An overall summary of affected wetlands and waterbodies are presented below in **Table 2**.

Table 2 Feature Impact Summary Table for the Bayou Bridge Pipeline Project						
Feature Type	Temporary Impacts		Permanent Conversion from PFO/PSS to PEM		Permanent Impacts (to be filled)	
	Number of Impacts	Acreage	Number of Impacts	Acreage	Number of Impacts	Acreage / Cubic Yards
Outside the Louisiana Coastal Zone						
PFO Wetland	78	110.734	72	49.744	1	0.01 / 6.72
Cypress and/or Cypress- Tupelo PFO Wetland	44	159.4142	47	79.73	1	0.015 / 10.08
PSS Wetland	40	6.347	28	4.609	0	0.00 / 0.00
PEM Wetland	142	100.765	0	0.00	1	0.005 / 3.36
E2EM Wetland	1	4.18	0	0.00	0	0.00 / 0.00
E2SS Wetland	0	0.00	0	0.00	0	0.00 / 0.00
Streams	564	23.0265	N/A	N/A	7	0.022 / 30.97

Table 2 Feature Impact Summary Table for the Bayou Bridge Pipeline Project						
Feature Type	Temporary Impacts		Permanent Conversion from PFO/PSS to PEM		Permanent Impacts (to be filled)	
	Number of Impacts	Acreage	Number of Impacts	Acreage	Number of Impacts	Acreage / Cubic Yards
Open Waters	18	16.114	N/A	N/A	0	0.00 / 0.00
Outside the Louisiana Coastal Zone Total	887	420.5807	147	134.083	11	0.052 / 51.13
Within the Louisiana Coastal Zone						
PFO Wetland	27	41.815	20	19.41	0	0.00 / 0.00
Cypress and/or Cypress- Tupelo PFO Wetland	8	5.38	8	2.44	0	0.00 / 0.00
PSS Wetland	3	0.2103	2	0.06	0	0.00 / 0.00
PEM Wetland	19	5.287	0	0.00	0	0.00 / 0.00
E2EM Wetland	0	0.00	0	0.00	0	0.00 / 0.00
E2SS Wetland	0	0.00	0	0.00	0	0.00 / 0.00
Streams	107	3.077	N/A	N/A	2	0.011 / 48.56
Open Waters	0	0.00	N/A	N/A	0	0.00 / 0.00
Within the Louisiana Coastal Zone Total	164	55.7693	30	21.91	2	0.011 / 48.56
Total Project Impacts						
PFO Wetland	105	152.549	92	69.154	1	0.01 / 6.72
Cypress and/or Cypress- Tupelo PFO Wetland	52	164.7942	55	82.17	2	0.015 / 10.08
PSS Wetland	43	6.5573	30	4.669	0	0.00 / 0.00
PEM Wetland	161	106.052	0	0.00	1	0.005 / 3.36
E2EM Wetland	1	4.18	0	0.00	0	0.00 / 0.00
E2SS Wetland	0	0.00	0	0.00	0	0.00 / 0.00
Streams	671	26.1035	N/A	N/A	9	0.033 / 79.53
Open Waters	18	16.114	N/A	N/A	0	0.00 / 0.00
Project Total	1,051	476.35	177	155.993	13	0.063 / 99.69

Additionally, the Project would cross 95 actively cultivated rice fields resulting in 371.65 acres of temporary disturbance. The placement of aboveground facilities within rice fields would result in the permanent loss of the current land use. All temporarily disturbed areas would be restored back to pre-existing conditions as discussed in the **Construction Procedures** section of this letter. The USACE considers areas under active rice cultivation mixed/not delineated, meaning each field contains a mixture of wetland and upland areas. Delineating wetland/upland boundaries in these areas is not feasible due to continuous disturbances and the influence of manipulated hydrology during rice cultivation. Mixed/not delineated areas are not presented in **Table 2**, or discussed in the wetlands section of this document.

The *Wetland Delineation Report* for the Project (**Attachment 5**) was originally submitted to the USACE Verification and Surveillance Division in Lafayette, Louisiana on February 19, 2016. An updated *Wetland Delineation Report* that presents the delineated data collected along the current proposed route has been submitted to the USACE Verification and Surveillance Division in conjunction with the filing of this document.

Waterbodies

Temporary Waterbody Impacts

The Project would cross 671 streams resulting in 26.1035 acres of temporary impacts, of which 107 streams and 3.077 acres of temporary impacts occur within the LCZ. The Project would also temporarily impact 16.114 acres of 18 areas classified as open waters. The Project would not impact open waters located within the LCZ. Where possible, impacts to streams and other waterbodies would be minimized or avoided during construction utilizing HDD crossing techniques. A list of features that will be crossed via HDD and for which impacts will be avoided/minimized is provided as **Table 3** in the **Avoidance, Minimization, and Mitigation** section of this document. All waterbodies temporarily impacted will be restored to pre-construction contours to the extent practicable following construction activities; therefore, permanent impacts on these waterbodies are not anticipated.

Permanent Waterbody Impacts

The construction of eight permanent access roads (PAR-2, PAR-5, PAR-6, PAR-8, PAR-10, PAR-12, PAR-17, and PAR-18) will result in the placement of permanent fill material in nine waterbodies. The permanent fill material is associated with the installation of new 12-inch or 24-inch diameter culverts. These eight permanent access roads will allow BBP to access proposed MLVs and the M&R station.

Construction of PAR-2, PAR-5, PAR-6, PAR-8, PAR-10, PAR-12, PAR-17, and PAR-18 will permanently fill a total of 0.033 acre (79.53 cubic yards) of nine waterbodies. Of these impacts, 0.011 acre (48.56 cubic yards) of two waterbodies will be permanently filled within the LCZ. The fill material would be comprised of clean fill/rock material and the new culverts.

Wetlands

Temporary Wetland Impacts

During construction, the Project will temporarily impact 1 E2EM wetland encompassing 4.18 acres, 161 PEM wetlands encompassing 106.052 acres, 105 PFO wetlands encompassing 152.549 acres, 43 PSS wetlands encompassing 6.5573 acres, and 52 cypress and/or cypress-tupelo dominated wetlands encompassing 164.7942 acres. Of these impacts, 19 PEM wetlands encompassing 5.287 acres, 27 PFO wetlands encompassing 41.815 acres, 3 PSS wetlands encompassing 0.2103 acre, and 8 cypress and/or cypress-tupelo dominated wetlands encompassing 5.38 acres would be impacted within the LCZ. Where possible, impacts to wetlands would be minimized or avoided during construction utilizing HDD crossing techniques. A list of features

that will be crossed via HDD and for which impacts will be avoided/minimized is provided as **Table 3** in the **Avoidance, Minimization, and Mitigation** section of this document.

After clearing activities, board mats would be placed in the wetlands to prevent rutting, where possible. Upon completion of construction, the board mats would be removed and pre-construction contours would be restored. All temporarily impacted wetlands would be allowed to revert back to pre-construction conditions following construction and restoration.

Permanent Conversion of Wetlands

BBP proposes to permanently maintain a 30-foot corridor centered on the pipeline through wetlands to facilitate periodic corrosion/leak surveys and to allow for access should a leak occur and need to be repaired. As a result of the permanent maintenance of the 30-foot corridor, 69.154 acres of PFO wetlands, 4.669 acres of PSS wetlands, and 82.17 acres of cypress and/or cypress-tupelo dominated wetlands would be permanently converted to emergent wetlands. Of these impacts, 19.41 acres of PFO wetlands, 0.06 acre of PSS wetlands, and 2.44 acres of cypress and/or cypress-tupelo dominated wetlands would be permanently converted to emergent wetlands within the LCZ.

All forested and scrub-shrub wetlands permanently converted to emergent wetlands will continue to function as wetlands upon completion of the Project; and therefore, there will be no net loss of wetlands as a result of the permanent maintenance of BBP's easement through wetlands.

Permanent Loss of Wetlands

The construction of three permanent access roads (PAR-6, PAR-10, and PAR-14) will result in the placement of permanent fill material in wetlands. The permanent fill material is associated the installation of new 12-inch diameter culverts. All three access roads that would permanently impact wetlands will provide access to proposed MLVs and are located outside of the LCZ.

Construction of PAR-6, PAR-10, and PAR-14 will permanently fill 0.015 acre (10.08 cubic yards) of one cypress and/or cypress-tupelo dominated PFO wetland, 0.005 acre (3.36 cubic yards) of one PEM wetland, and 0.01 acre (6.72 cubic yards) of one PFO wetland, respectively. The fill material would be comprised of clean fill/rock material and the new culverts.

Threatened and Endangered Species / Sensitive Resources

Perennial biologists conducted a threatened and endangered species survey to identify any threatened and endangered (T&E) species, designated critical habitat, or potentially suitable habitat within the Project footprint. The complete results of this survey are provided in the *Threatened and Endangered Species and Sensitive Resource Report*, which is included as **Attachment 6**. The *Threatened and Endangered Species and Sensitive Resource Report* also provides an analysis of the Project's potential impact on other sensitive resources, such as Essential Fish Habitat and colonial wading birds and their rookeries.

On February 19, 2016, BBP submitted the *Threatened and Endangered Species and Sensitive Resource Report* to the U.S. Fish and Wildlife Service (USFWS) Louisiana Ecological Field Office to initiate informal consultation. On March 14, 2016, the USFWS Louisiana Ecological Field Office issued a letter indicating that they concur with the “no effect” and “not likely to adversely affect” determinations for federally listed species based on the information provided in the *Threatened and Endangered Species and Sensitive Resource Report* (**Attachment 6**). The USFWS also indicated that no further consultation with the USFWS under Section 7 of the *Endangered Species Act* would be required unless there are significant changes in the scope or location of the proposed Project, or if it has not been initiated within one year of the date of the letter. An updated *Threatened and Endangered Species and Sensitive Resource Report* has been submitted to the USFWS in conjunction with this submittal.

Cultural Resources

Archaeologists conducted a cultural resource investigation in compliance with Section 106 of the *National Historic Preservation Act* (NHPA) and guidelines set forth by the Louisiana Division of Archaeology (LDOA) to identify cultural resource sites within the Project footprint and to assess any potential impacts by the Project to historic properties or other sensitive cultural resources. Coordination with the Louisiana State Historic Preservation Office (SHPO) was initiated on February 19, 2016 with the initial submittal of the Draft Phase I Cultural Resources Report. An updated Draft Phase I Cultural Resources Report has been submitted in concert with this supplemental permit submittal. A copy of the updated Draft Phase I Cultural Resources Report is included as **Attachment 7**.

Section 408 Crossings

The Project would cross a total of eight USACE civil works projects that would require Section 408 review including the Calcasieu River, Mermentau River, Vermilion River, Bayou Teche, Atchafalaya River, Gulf Intracoastal Waterway (GIWW), and the East and West Atchafalaya Basin Protection Levees. BBP would utilize the HDD crossing method to minimize disturbance and avoid direct impacts to each of the USACE civil works projects crossed by the Project. The HDD method would allow for construction without the excavation of a trench by drilling a hole significantly below conventional pipeline depth and pulling the pipeline through the pre-drilled hole. A copy of the preliminary HDD plan and profile drawings for each of the Section 408 crossings is included in **Attachment 1**. Upon completion of geotechnical surveys, BBP will finalize the detailed design of the HDDs proposed for the Section 408 crossings and will submit supporting documents to the USACE for review. Furthermore, BBP will continue to coordinate with the Atchafalaya Basin Levee District and the Coastal Protection and Restoration Authority regarding the East and West Atchafalaya Basin Protection Levee crossings.

Louisiana Coastal Zone

Of the 162.07 miles of newly proposed pipeline, approximately 16.50 miles of the mainline and the entirety of the 1.12-mile lateral are located within the LCZ. Three MLVs, one M&R station, 16 temporary access roads, and 3 permanent access roads will also be located within the LCZ. Construction of the Project within the LCZ will impact a total of 263.99 acres of land, and will

result in the placement of 165,393.07 cubic yards of material excavated onsite and the placement of 11,447.82 cubic yards of crushed stone or gravel. A list of the landowners impacted by the proposed Project within the LCZ is provided as **Attachment 10**. Detailed descriptions of the impacts on wetlands and waterbodies located within the LCZ is provided in the **Waters of the United States** section of this document and **Attachment 2**.

CONSTRUCTION PROCEDURES

Construction of the Project is expected to begin in March 2017 and would be completed by November 2017. Conventional open-cut pipeline construction techniques would be used for the majority of the Project. The construction process would be coordinated in a manner to minimize the total time a tract of land is disturbed and therefore exposed to erosion and/or temporarily precluded from its normal use. BBP will implement their *Spill Prevention and Response Plan* and *Plan of Inadvertent Release of Drilling Mud during Horizontal Directional Drilled Wetland and Waterbody Crossings* to protect sensitive resources from inadvertent releases during construction activities (**Attachment 9**). BBP will also implement measures outlined in their *Unanticipated Discoveries Plan for Cultural Resources, Human Remains, and Contaminated Media* to deal with unanticipated discoveries during construction (**Attachment 9**).

The following sections describe general and specialized construction and installation procedures. Depictions of typical pipeline construction procedures are provided in **Attachment 1**.

Clearing and Grading

Prior to commencement of ground disturbing activities, a standard survey and stakeout would be conducted to identify ROW and workspace boundaries and to locate existing foreign utility lines within the construction ROW. Following the completion of the surveys, the construction ROW would be cleared of vegetation and debris. Within wetlands, stumps would be cut flush with the ground and left in place except where removal is necessary to facilitate the creation of a safe and level workspace. Cleared vegetation and debris along the ROW would be disposed of in accordance with federal, state, and local regulations either by burning, chipping and spreading, or transportation to a commercial disposal facility. All woody debris that is chipped will be spread along the construction ROW to a maximum depth of 4 inches. Where necessary, to contain disturbed soils during clearing and grading in upland areas, and to minimize potential erosion and sedimentation of wetlands and waterbodies, temporary erosion control devices (ECDs) would be installed prior to initial ground disturbance and would be maintained throughout construction.

Trenching

Conventional open-cut techniques would be used in uplands and across minor streams and drainages. Trenching involves excavation of a ditch for pipeline placement and is accomplished through the use of a trenching machine, backhoe, or similar equipment. Trench spoil would be deposited adjacent to each trench within the approved construction work areas with topsoil segregation utilized where necessary. The open-cut trench would be excavated to a depth sufficient to provide the minimum cover as required by U.S. Department of Transportation (DOT)

specifications. The floor of the trench would be a minimum of 1-foot wider (on each side) than the pipe diameter to be installed.

The HDD crossing method would be primarily used at major waterbody crossings, major highway crossings, and levee crossings. The HDD method allows for construction at a specialized crossing without the excavation of a trench by drilling a hole significantly below conventional pipeline depth and pulling the pipeline through the pre-drilled hole.

Horizontal bore techniques would be used at select roads, railroads, and stream crossings. The horizontal bore method is another trenchless construction technique, which uses boring machinery to push the pipe through a horizontal profile.

Pipeline Installation

Following preparation of the trench, the new pipe would be strung and distributed along the ROW parallel to the trench. Depending on available workspace, some pipe may be fabricated off-site and transported to the ROW in differing lengths or configurations. Pipe would be bent by hydraulic bending machines, as necessary, to conform the pipe to the trench. Once in place along the ROW, pipe lengths would be aligned, bends fabricated, and joints welded together. The entire pipeline would then be visually inspected prior to lowering into the trench.

The push/float method of construction may be used in inundated lowland or saturated wetland areas where conventional pipe laying equipment cannot be supported, and in areas that have sufficient amount of water at the time of construction that would allow for pipe to be floated through the open trench. Implementation of this method requires excavation of the trench using low-ground weight equipment, thereby limiting the need for grubbing and grading activities over the trench line or working side of the ROW. Coated and weighted pipe will be welded at a staging area where floats are attached to the pipe. The welded pipe will be pushed along the water-filled trench until it is in place. Once in place over the trench, the floats will be cut and the pipe will be allowed to sink into place. The trench will then be backfilled using previously excavated material. Utilization of this method reduces wetland impacts and soil compaction by minimizing the number of construction passes necessary to install the pipe. Any required staging will be conducted within the normal ROW corridor to the extent practicable.

Backfilling and Restoration

Prior to construction completion, excavated areas would be backfilled using spoils excavated from the trench. The disturbed areas would be allowed to return to pre-construction conditions. Wetlands and waterbodies crossed by the pipeline would be returned to pre-construction conditions. Agricultural lands would be restored to pre-construction contours and top soil would be placed back in its original location. Permanent erosion and sediment control measures would be installed as appropriate.

Hydrostatic Testing

Following backfilling of the trench, the pipeline would be cleaned and hydrostatically tested to ensure it is capable of operating at the design pressure. The water in the pipe would be pressurized and held for a minimum of eight hours. Any loss of pressure that cannot be attributed to other factors, such as temperature changes, would be investigated. Any leaks detected will be repaired and the segments that are repaired would be retested. Upon completion of the testing, the water would be discharged in accordance with applicable federal and state regulations.

ALTERNATIVE ANALYSIS

BBP evaluated various alternatives for the proposed Project, including a no-action alternative and alternative routes, in order to determine feasible and practicable measures to avoid and minimize potential environmental impacts. Pursuant to Section 404(b)(1) of the *Clean Water Act*, the USACE defines practicable alternatives as those which are "...available and capable of being done after taking into consideration cost, existing technology, and logistics in light of the overall project purpose."

Logistics – The Project footprint would be owned by the applicant, BBP, including all operation and maintenance activities. Alternatives would need to exhibit similar location, size, configuration, and access characteristics to accommodate the proposed 24-inch pipeline. Additionally, the alternatives would need to be efficient and thus, must be balanced against reasonable time for construction and route length.

Existing Technology – The proposed Project must be accomplished using currently available, competitively priced, and environmentally considerate technologies and services associated with pipeline construction, operation, and maintenance.

Cost – Due to the length of the Project, costs were a part of the decision-making process. Construction and maintenance costs were considered during evaluation of the alternatives, including those associated with Project alignment, permitting, mitigation, operations, and maintenance. The cost of the Project must be balanced against the Project's purpose, overall public benefit, cost to the applicant, BBP, and environmental impacts.

For this assessment, alternatives are considered practicable with regard to cost if the alternative provides construction of the pipeline at competitive construction and operational costs to BBP as well as a minimal mitigation or reclamation cost to the surrounding environment. The number of HDDs that cross USACE civil works projects directly impact the total cost of the Project. Alternatives that have the fewest number of levee/river crossings were considered practicable from a cost evaluation perspective due to the cost of a long HDD. An alternative is practicable with respect to existing technology if the pipeline design and development favor the best available technologies, which are both competitively priced and environmentally considerate. Alternatives are considered logistically practicable if the alternative adequately and efficiently meets the proposed Project's purpose and need. Sensitive resources such as forested wetlands, federally listed critical habitat, Wetland Reserve Program crossings, and other protected land crossings impact the Project's schedule and timeline. Therefore, alternatives that have fewest intersections with sensitive resources were considered practicable with respect to logistics due to the associated

significant regulatory actions and potential schedule constraints. National Wetland Inventory (NWI) data was used to analyze wetland impact acreages in order to maintain consistency for the comparison of each alternative. The alternative analysis conducted for the proposed Project is provided as **Attachment 10**.

AVOIDANCE, MINIMIZATION, AND MITIGATION

Due to the length of the proposed Project, impacts to all waters of the United States, including wetlands, could not be avoided. BBP minimized impacts during the design phase of the Project by collocating approximately 142.33 miles/88 percent (11.28 miles/64 percent within the LCZ) of the route with existing utilities, roadways, and railways. The construction footprint was kept to a minimum necessary to allow the pipeline to be constructed safely. Furthermore, the Project workspace was reduced from 100 feet to 75 feet when constructing through wetlands.

Aboveground features (presented in **Table 1**) were designed to occur in upland areas to the greatest extent practicable. MLVs located within areas frequently inundated (such as wetlands and in the Atchafalaya Basin) will be placed on concrete pilings to avoid the placement of permanent fill within wetlands and waterbodies.

During construction of the Project, BBP will utilize the HDD crossing method to avoid and/or minimize impacts on 60 streams, 6 open waters, and 68 wetlands, of which five streams and two wetlands occur within the LCZ. The name and type of each feature crossed by an HDD is presented in **Table 3**. Where practicable, BBP will avoid clearing activities within 60-foot riparian buffers adjacent to waterbodies crossed utilizing HDDs to further minimize the Projects impacts on these waterbodies. The 60-foot riparian buffers that are cleared during construction to allow for the movement of equipment and personnel will be allowed to revegetate naturally upon completion of construction. Riparian buffers are identified on the drawings provided in **Attachment 1**.

<p align="center">Table 3 Wetland and Waterbodies Crossed via HDD along the Bayou Bridge Pipeline Project</p>		
Approximate Milepost	Feature Name	Feature Type
Outside the Louisiana Coastal Zone		
0.1	SP2CA197	Stream
0.1	SP2CA196	Stream
0.1	WP2CA106	Wetland
0.2	SP3CA223 (Calcasieu River)	Stream
0.3	WP7CA002_PSS	Wetland
0.4	WP7CA002_PEM	Wetland
0.5	WP7CA003	Wetland
0.6	WP3CA078	Wetland
0.9	WP3CA076	Wetland
1.1	SP3CA222 (Calcasieu River)	Stream
1.8	WP7CA004_PFO	Wetland
2.4	SP2CA195	Stream
2.4	SP1CA139	Stream
2.4	SP1CA140 (Guy Bayou)	Stream

<p align="center">Table 3 Wetland and Waterbodies Crossed via HDD along the Bayou Bridge Pipeline Project</p>		
Approximate Milepost	Feature Name	Feature Type
2.4	WP2CA101	Wetland
2.4	WP1CA038	Wetland
2.6	WP1CA043	Wetland
5.4	SP1CA137	Stream
29.4	WP7JD014	Wetland
29.6	SP2JD057 (East Bayou Lacassine)	Stream
29.6	WP2JD017_PFO_CYP (First crossing)	Wetland
29.7	WP2JD017_PFO_CYP (Second crossing)	Wetland
29.8	WP2JD017_PFO	Wetland
35.0	SP3JD119	Stream
35.0	SP3JD120 (Welsh Canal)	Stream
35.0	SP3JD121	Stream
37.5	WP3JD012	Wetland
37.7	SP1JD033 (Bayou Chene)	Stream
37.7	WP3JD065	Wetland
37.8	WP3JD067_PFO (First crossing)	Wetland
37.8	WP3JD067_PEM (First crossing)	Wetland
37.8	WP3JD067_PFO (Second crossing)	Wetland
42.3	SP1JD025 (First crossing)	Stream
42.4	SP1JD026 (First crossing)	Stream
42.4	WP1JD001	Wetland
45.8	WP1JD009_PFO_CYP (Second crossing)	Wetland
46.7	WP1JD014_PFO_CYP	Wetland
46.8	SP2AC056 (Mermentau River)	Stream
46.8	WP3AC001_PFO_CYP	Wetland
62.6	SP4AC104	Stream
62.6	SP3AC015 (Lyons Point Gully)	Stream
62.7	WP2AC070	Wetland
63.7	SP3AC157	Stream
63.7	SP3AC156	Stream
66.1	SP4AC121	Stream
66.2	WP4AC055	Wetland
66.3	SP4AC120	Stream
66.3	SP4AC118	Stream
66.4	WP4AC057_PFO	Wetland
66.5	WP4AC058	Wetland
74.2	SP2VE009 (First crossing)	Stream
74.4	SP2VE010	Stream
74.5	WP3VE014_PEM (First crossing)	Wetland
74.5	WP3VE014_PSS_B	Wetland

Approximate Milepost	Feature Name	Feature Type
74.5	WP3VE014_PEM (Second crossing)	Wetland
74.5	WP3VE014_PSS_C	Wetland
74.6	WP3VE014_PEM_B	Wetland
74.6	WP3VE084	Wetland
74.7	OWP3VE017	Manmade pond
74.8	SP2VE035	Stream
78.5	OWP4VE022	Manmade pond
79.0	WP2VE093 (Second crossing)	Wetland
79.0	WP2VE092	Wetland
79.2	SP2LA191	Stream
79.2	SP2LA079 (Vermilion River)	Stream
79.3	SP2LA177	Stream
79.3	WP2LA091_PEM_B	Wetland
79.4	SP2LA180	Stream
92.6	SP1SM065	Stream
92.6	SP4SM009 (First crossing)	Stream
92.6	SP4SM012	Stream
92.6	WP1SM011	Wetland
92.7	SP4SM011	Stream
96.5	WP4SM068	Wetland
96.6	SP1SM068 (Bayou Teche)	Stream
96.6	WP4SM069	Wetland
106.6	WP1SM031_PFO_CYP_B	Wetland
106.9	WP1SM031_PEM (Third crossing)	Wetland
107.0	WP1SM031_PFO_CYP	Wetland
107.1	SP1SM122 (Bayou Benoit)	Stream
107.2	SP2SM190 (Bayou Chene)	Stream
107.2	SP4SM096 (Bayou Chene)	Stream
107.2	WP4SM081	Wetland
107.3	WP4SM043	Wetland
107.5	SP4SM044 (Second crossing)	Stream
107.5	OWP4SM010	Natural pond
107.6	WP4SM044	Wetland
108.2	SP4SM044 (Third crossing)	Stream
110.3	OWP4SM009	Manmade pond
110.4	SP4SM045	Stream
110.5	OWP2SM014	Manmade pond
110.6	WP2SM049_PFO	Wetland
110.9	SP2SM124 (Second crossing)	Stream
110.9	WP2SM048_PFO	Wetland
114.5	WP2SM044_PFO	Wetland

<p align="center">Table 3 Wetland and Waterbodies Crossed via HDD along the Bayou Bridge Pipeline Project</p>		
Approximate Milepost	Feature Name	Feature Type
114.6	SP2SM120 (Alligator Bayou)	Stream
114.7	WP2SM045_PFO	Wetland
120.1	WP1SM026_PFO	Wetland
120.3	SP1SM108 (Atchafalaya River)	Stream
120.6	WP1SM025	Wetland
121.1	SP2SM127 (First crossing)	Stream
121.2	WP1SM024	Wetland
121.3	SP1SM107 (Bayou Hebert)	Stream
121.3	WP1SM023_PFO_B	Wetland
121.4	WP1SM023_PFO_CYP_B	Wetland
125.0	WP2SM052	Wetland
126.4	SP2SM127 (Eighth crossing)	Stream
126.4	SP2IV066 (Cross Bayou)	Stream
126.4	WP2IV018	Wetland
128.3	WP2IV022_PFO_CYP	Wetland
130.4	WP2IV022_PFO	Wetland
130.5	SP3IV149 (Gulf Intracoastal Waterway)	Stream
130.6	WP1IV031_PFO_CYP	Wetland
130.7	SP1IV113 (Port Allen Lock)	Stream
130.7	WP1IV030_PFO_CYP	Wetland
130.7	OWP1IV003	Oxbow
130.8	SP1IV112	Stream
130.8	WP1IV029_PFO_CYP	Wetland
130.8	WP1IV028_PFO_CYP	Wetland
130.9	SP1IV114	Stream
131.0	WP1IV015_PFO_CYP_F	Wetland
140.8	WP3IV025_PFO	Wetland
141.6	WP3IV025_PEM	Wetland
141.7	WP3IV021_PEM (Second crossing)	Wetland
141.7	SP3IV082	Stream
141.7	SP3IV067 (Bayou Bijou)	Stream
141.7	SP3IV066 (First Crossing)	Stream
Within the Louisiana Coastal Zone		
147.6	SP3AP056	Stream
147.6	SP3AP055	Stream
147.6	SP1AP003 (Bayou Lafourche)	Stream
158.6	WP1SJ001_PFO	Wetland
158.8	SP4SJ002 (Saint James Canal)	Stream
158.8	WP4SJ001_PEM (Second Crossing)	Wetland
158.9	SP4SJ017 (First Crossing)	Stream

Mitigation

Impacts to forested and scrub shrub wetlands would occur within eight unique watersheds including the Lower Calcasieu (HUC 8: 08080206), Mermentau (HUC 8: 08080202), Vermilion (HUC 8: 08080103), Bayou Teche (HUC 8: 08080102), Atchafalaya (HUC 8: 08080101), Lower Grand (HUC 8: 08070300), West Central Louisiana Coastal (HUC 8: 08090302), and East Central Louisiana Coastal (HUC 8: 08090301). The Project impacts in the West Central Louisiana Coastal and East Louisiana coastal watersheds occur primarily within the LCZ. **Attachment 2** presents the location of each individually impacted feature by watershed.

Within the Lower Calcasieu watershed, the proposed Project will temporarily impact 4.18 acres of E2EM wetlands, 8.11 acres of PFO wetlands, 0.695 acre of PSS wetlands, and 10.812 acres of PEM wetlands. The Project will also result in the permanent conversion of 3.06 acres of PFO wetlands and 0.294 acre of PSS wetlands within the Lower Calcasieu watershed.

Within the Mermentau watershed, the proposed Project will temporarily impact 3.18 acres of PFO wetlands, 0.641 acre of cypress and/or cypress-tupelo dominated PFO wetlands, 4.572 acres of PSS wetlands, and 68.588 acres of PEM wetlands. The Project will also result in the permanent conversion of 2.561 acres of PFO wetlands, 2.03 acres of cypress and/or cypress-tupelo dominated PFO wetlands, and 2.74 acres of PSS wetlands within the Mermentau watershed. Approximately 0.015 acre of one cypress and/or cypress-tupelo dominated PFO wetland will be permanently filled as a result of the installation of a new culvert for a permanent access road that leads to a MLV.

Within the Vermilion watershed, the proposed Project will temporarily impact 1.754 acres of PFO wetlands, 0.13 acre of PSS wetlands, and 6.518 acres of PEM wetlands. The Project will also result in the permanent conversion of 1.39 acres of PFO wetlands and 0.26 acre of PSS wetlands within the Vermilion watershed. Approximately 0.005 acre of PEM wetlands will be permanently filled as a result of the installation of a new culvert for a permanent access road that leads to a MLV.

Within the Bayou Teche watershed, the proposed Project will temporarily impact 7.16 acres of PFO wetlands, 2.52 acres of cypress and/or cypress-tupelo dominated PFO wetlands, and 10.454 acres of PEM wetlands. The Project will also result in the permanent conversion of 4.62 acres of PFO wetlands and 1.62 acres of cypress and/or cypress-tupelo dominated PFO wetlands within the Bayou Teche watershed.

Within the Atchafalaya watershed, the proposed Project will temporarily impact 46.34 acres of PFO wetlands, 123.9832 acres of cypress and/or cypress-tupelo dominated PFO wetlands, 0.65 acre of PSS wetlands, and 0.31 acre of PEM wetlands. The Project will also result in the permanent conversion of 16.803 acres of PFO wetlands, 58.79 acres of cypress and/or cypress-tupelo dominated PFO wetlands, and 1.185 acres of PSS wetlands within the Atchafalaya watershed.

Within the Lower Grand watershed, the proposed Project will temporarily impact 25.54 acres of PFO wetlands, 32.27 acres of cypress and/or cypress-tupelo dominated PFO wetlands, and 1.20 acres of PEM wetlands. The Project will also result in the permanent conversion of 12.71 acres of

PFO wetlands and 17.29 acres of cypress and/or cypress-tupelo dominated PFO wetlands within the Lower Grand watershed.

Within the West Central Louisiana Coastal watershed, the proposed Project will temporarily impact 18.65 acres of PFO wetlands, 0.30 acre of PSS wetlands, and 2.883 acres of PEM wetlands. The Project will also result in the permanent conversion of 8.60 acres of PFO wetlands and 0.13 acre of PSS wetlands within the West Central Louisiana Coastal watershed. Approximately 0.01 acre of one PFO wetland will be permanently filled as a result of the installation of a new culvert for a permanent access road that leads to a MLV. No wetland impacts will occur in the portion of the West Central Louisiana Coastal watershed that occurs within the LCZ.

All impacts occurring within the East Central Louisiana Coastal watershed are located in the LCZ. The proposed Project will temporarily impact 41.815 acres of PFO wetlands, 5.38 acres of cypress and/or cypress-tupelo dominated PFO wetlands, 0.2103 acre of PSS wetlands, and 5.287 acres of PEM wetlands. The Project will also result in the permanent conversion of 19.41 acres of PFO wetlands, 2.44 acres of cypress and/or cypress-tupelo dominated PFO wetlands, and 0.06 acre of PSS wetlands within the East Central Louisiana Coastal watershed.

BBP has utilized the USACE NOD interim Louisiana Wetland Rapid Assessment Method (LRAM) to determine the appropriate mitigation requirements for the Project. The interim LRAM method utilizes river basins to evaluate impacts. The Project crosses the Calcasieu, Mermentau, Vermilion-Teche, Atchafalaya, Terrebonne, and Barataria river basins. A summary of the impacts by river basin is presented in **Table 4** and the interim LRAM table for the Project is provided in **Attachment 11**.

River Basin	Wetland Type	Impact Acreage	Required Mitigation Credits
Calcasieu	PSS	0.989	7.0
	PFO	11.17	94.8
	Cypress and/or cypress-tupelo dominated PFO	0.00	0.0
Calcasieu Totals		12.159	101.8
Mermentau	PSS	7.312	52.4
	PFO	5.741	45.5
	Cypress and/or cypress-tupelo dominated PFO	2.686	22.6
Mermentau Totals		15.739	120.5
Vermilion-Teche	PEM ^a	0.005	0.1
	PSS	0.39	2.9
	PFO	14.924	121.7
	Cypress and/or cypress-tupelo dominated PFO	4.14	35.2
Vermilion-Teche Totals		19.459	159.9
Atchafalaya	PSS	1.835	13.8
	PFO	63.143	493.5

Table 4 Summary of Wetland Impacts by River Basin and Required Mitigation Credits			
River Basin	Wetland Type	Impact Acreage	Required Mitigation Credits
	Cypress and/or cypress-tupelo dominated PFO	182.7732	1,560.7
Atchafalaya Totals		247.7512	2,068.0
Terrebonne	PSS	0.43	3.2
	PFO	65.51	551.4
	Cypress and/or cypress-tupelo dominated PFO	49.56	421.3
Terrebonne Totals		115.50	975.9
Barataria	PSS	0.2703	2.0
	PFO	61.225	520.4
	Cypress and/or cypress-tupelo dominated PFO	7.82	66.5
Barataria Totals		69.3153	588.9
Project Totals		479.9235	4,015.0
^a Impacts associated with the installation of a new culvert for a permanent access road to a MLV.			

BBP proposes to compensate for both temporary workspace impacts and permanent impacts to forested and scrub-shrub wetlands through the purchase of mitigation credits. BBP will also mitigate for the permanent fill placed within wetlands as a result of the installation of culverts along proposed permanent access roads.

As outlined in **Table 4**, BBP will purchase a total of 4,015.0 mitigation credits to offset the Project's impacts. Upon approval, the appropriate amount of credits will be purchased from approved USACE NOD mitigation banks. BBP proposes to purchase mitigation credits in-basin/in-kind where available. BBP proposes to purchase mitigation credits in-basin/out-of-kind only if there are not enough in-kind credits available in a particular river basin. Furthermore, if there are not enough wetland credits available to purchase from approved mitigation banks to offset Project impacts in a particular river basin, BBP proposes to purchase mitigation credits from mitigation banks located in the adjacent basins (i.e., out-of-basin).

Compensatory mitigation is not a requirement for temporary impacts to PEM wetlands and streams. Temporarily impacted areas would be restored as described in the **Construction Procedures** section of this letter.

Authorization Request

As outlined above, the Project would have both temporary and permanent impacts on wetlands and waterbodies. The Project would result in the permanent conversion of 69.154 acres of PFO wetland, 82.17 acres of cypress and/or cypress dominated PFO wetlands, and 4.669 acres of PSS wetland. The Project would also result in the permanent loss of 0.01 acre of one PFO wetland, 0.015 acre of one cypress and/or cypress-tupelo dominated wetland, 0.005 acre of one PEM wetland, and 0.063 acre of 9 waterbodies as a result of the installation of culverts along permanent access roads. The affected "Waters of the United States" are listed in **Attachment 2**, which details

the following information: waterbody ID, wetland ID, flow type, wetland type, acreage impacted, location, and jurisdictional classification. The attached Project mapping depicts the "Waters of the United States" located within the Project area (**Attachment 1**).

This document and attachments constitute the supplemental application for the proposed Project. Please contact Marshall Olson at (713) 462-7121 or by email at molson@perennialenv.com, or Joe Kolb, BBP's environmental representative for the Project, at (713) 989-7084 or by email at joe.kolb@energytransfer.com if you have any questions or comments.

